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Notice of Allowability

Application No.

09/836,177

Examiner

David Lazaro

Applicant(s)

FUJITA, NORIHIITO

Art Unit

2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 01/03/05.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☒ The drawings filed on 03 January 2005 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


David Lazaro
04/27/05

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with David Blumenthal (26,257) on 04/26/05.

The application has been amended as follows:

In the claims:

In Claim 1, line 7, please replace "said intra-area indication being" with --wherein an intra-area destination is--.

In Claim 2, line 8, please replace "said" with --wherein an--.

In Claim 2, line 9, please replace "indication being" with --destination is--.

In Claim 2, line 12, after "of", please insert --only--.

In Claim 5, line 7, please replace, "said intra-area indication being" with --wherein an intra-area destination is--.

In Claim 6, line 8, please replace "said" with --wherein an--.

In Claim 6, line 9, please replace "indication being" with --destination is--.

In Claim 9, line 6, please replace "said" with --wherein an--.

In Claim 9, line 7, please replace "indication being" with --destination is--.

In Claim 9, line 9, please replace "onle" with --only--.

In Claim 10, line 8, please replace, "said intra-area indication being" with --wherein an intra-area destination is--.

2. The following is an examiner's statement of reasons for allowance:

3. The primary reason for allowance is the inclusion of specific limitations in each of the independent claims related to a first and second table and their implementation in a router, network, and routing method as claimed associated with on-demand QoS

(quality or service) based routing in a hierarchical network. The specific limitations are

"a first table having a plurality of entries respectively corresponding to reachable destinations, each of the entries including one of an intra-area indication and an inter-area indication and an area identifier identifying at least one traversable area, wherein an intra-area destination is associated with only one area identifier; at least one second table corresponding to said at least one traversable area, each of said at least one second table holding quality-of-service (QoS) values of only the links of the corresponding at least one traversable area;"

These tables are used in calculating a QoS route in response to a request (ie. on-demand). The prior art, such as RFC 2676 (QoS Routing Mechanisms and OSPF Extensions), primarily describes pre-computation of QoS routes (See section 1.2 - Simplifying Assumptions) as opposed to on-demand. While RFC 2676 briefly describes on-demand computation as an alternative, there is no teaching of the first and second tables and their implementation as claimed. These limitations are further non-obvious in view of the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
5. Van der Zee, Martin "Quality of Service Routing, State of the Art Report", Ericsson Open report, 07/08/1999. Discloses a comprehensive state of the art on QoS based routing. Includes some information on on-demand QoS routing, but does not disclose any structure and implementation similar to the claimed limitations.
6. Apostolopoulos et al. "Implementation and Performance Measurements of QoS Routing Extensions to OSPF", INFOCOM '99, IEEE, 1999. Discloses primarily pre-computation QoS routing similar to RFC 2676. Does not disclose any structure and implementation similar to the claimed limitations.

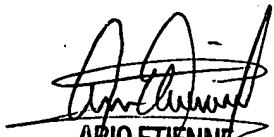
7. Zhang et al. "Quality of Service Extensions to OSPF or Quality of Service Path First Routing (QOSPF)" IETF Internet-Draft, September 1997. Discloses different types of QoS routing such as through multicast or explicit routing. Does not disclose the table structures and their implementation as claimed.
8. Crawley et al. "A framework for QoS-based Routing in the Internet", RFC 2386, August 1998. Discloses general requirements for a framework for QoS based routing. Does not describe any structure and implementation similar to the claimed limitations.
9. U.S. Patent 5,933,425 by Iwata "Source routing for connection-oriented network with repeated call attempts for satisfying user-specified qos parameters" August 3, 1999. Discloses path determination based on a request specifying multiple QoS parameters. Does not disclose the table structures and their implementation as claimed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lazaro whose telephone number is 571-272-3986. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 571-272-4001 or John Follansbee at 571-272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David Lazaro
April 27, 2005


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